Institute for Materials Science

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IMS Sponsored Lecture Series

Professor Michael Demkowicz
Texas A&M University

Modeling the Radiation Response of Amorphous Silicon Oxycarbide

Monday, October 17, 2016
10:30 - Noon
Sig Hecker Conference Room (TA3 - 0032 room 134)

Abstract: Amorphous silicon oxycarbide (SiOC) has recently emerged as a material of interest for nuclear energy applications due to its high thermal stability, low creep, and ease of processing. Moreover, recent experiments indicate that it may be resistant to high dose radiation. However, understanding the radiation response of SiOC poses a challenge: how do we describe radiation-induced damage in a material with no long-range crystalline structure? In this talk, I will describe a first principles modeling effort aimed at elucidating the structure and radiation response of SiOC.

Bio: Michal J. Demkowicz is an Associate Professor in Materials Science and Engineering at Texas A&M University. Prior to that, he was an Associate Professor at MIT's Department of Materials Science and Engineering. Demkowicz received his PhD in Mechanical Engineering from MIT in 2005, working with Ali S. Argon. During that time, he was an NSF fellow. During 2005-2008, he was a Director's Postdoctoral Fellow and technical staff member at Los Alamos National Laboratory. In 2007, Demkowicz was honored with the LANL Postdoctoral Distinguished Performance Award. He received the TMS Early Career Faculty Fellow and NSF CAREER awards in 2012 and the MIT Graduate Materials Council outstanding teacher award in 2014 and 2015. He is an author on 86 peer-reviewed publications with >1500 citations and a Web of Science H-factor of 24. Demkowicz's research interests lie in computational materials design, fundamental physics of material behavior, and mechanical and radiation response of materials.

To be on Dr. Johnson's Agenda or for general information contact Yonquiang Wang
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